

## **LISTING OF THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application. Claims 1, 3, 5-18, 20-25, 27-30 are pending. Claims 1, 14, 18 are amended. Claims 2, 4 and 19 are canceled without prejudice or disclaimer. Claims 27-30 are new. The remaining claims are unchanged.

1. (Currently Amended): A method for defining a virtual domain in an electronic messaging system **supporting a plurality of users**, comprising:

defining a virtual domain node corresponding to a real domain name server in a hierarchically organized directory wherein the hierarchically organized directory is a hierarchical structure that resembles a tree with one major branch at the top and many branches and sub-branches below;

**associating the virtual domain node with one of the plurality of users; [[and]]**

associating a plurality of virtual domain attributes to the virtual domain node, the plurality of virtual domain attributes ~~selected from~~ **including a designated virtual domain administrator, a designated virtual domain postmaster,** a state of the virtual domain[[,]] and ~~a set of allowed~~ **one or more messaging** services for the virtual domain; **and**

**defining, for the virtual domain node, the one or more messaging services in a particular manner for the user associated with the virtual domain node.**

2. (Cancelled)

3. (Previously presented): A method as recited in claim 1, wherein the state of the virtual domain node is selected from the list comprising: active, inactive (or suspended), and deleted.

4. (Cancelled)

5. (Previously Presented): A method as recited in claim 1, wherein the tree based hierarchy is a standard based directory information tree (DIT) that includes a plurality of directory entries each of which is associated with a higher level (parent) directory entry.

6. (Original): A method as recited in claim 5, wherein the directory takes the form of a segmented name space.

7. (Original): A method as recited in claim 6, wherein the segmented name space includes a segmented name associated with a user that is segmented in such a way that the user is uniquely identified by a unique user name at a first hierarchical level and an associated domain name at a higher hierarchical level.

8. (Original): A method as recited in claim 7, wherein during a user name search operation, the user name is initially resolved at the higher hierarchical level and subsequently at the first hierarchical level such that in a multi-domain environment the search operation is performed as if the user name was part of a flat name space.

9. (Original): A method as recited in claim 8 further comprising:

defining a routing table based upon the segmented name space, wherein the routing table is used by a transfer agent to direct an appropriately addressed email message to a receiving user in the virtual domain.

10. (Original): A method as recited in claim 9, wherein the segmented name space is based upon the most direct path from the user name to the highest connected hierarchical level in the directory.

11. (Original): A method as recited in claim 1, wherein the electronic messaging system is an email messaging system.

12. (Original): A method as recited in claim 1, wherein the electronic messaging system is a voicemail messaging system.

13. (Original): A method as recited in claim 10, wherein the standard based directory is an LDAP based directory.

14. (Currently Amended): A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system **supporting a plurality of users**, the computer-readable medium comprising computer program code devices configured to cause a computer to execute the operations of:

defining a virtual domain node corresponding to a real (non-virtual) domain in a hierarchically organized directory wherein the hierarchically organized directory is a hierarchical structure that resembles a tree with one major branch at the top and many branches and sub-branches below; and

**associating the virtual domain node with one of the plurality of users; [[and]]**

associating a plurality of virtual domain attributes to the virtual domain node, the plurality of virtual domain attributes ~~selected from~~ **including a designated virtual domain**

~~administrator, a designated virtual domain postmaster,~~ a state of the virtual domain[[,]] and ~~a set of allowed one or more messaging~~ services for the virtual domain; and  
defining, for the virtual domain node, the one or more messaging services in a particular manner for the user associated with the virtual domain node.

15. (Previously presented): A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system as recited in claim 14, wherein the state of the virtual domain node is selected from the list comprising: active, inactive (or suspended), and deleted.

16. (Original): A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system as recited in claim 15, the computer-readable medium further comprising computer program code devices configured to cause a computer to execute the operations of:

defining a routing table based upon the segmented name space, wherein the routing table is used by a transfer agent to direct an appropriately addressed email message to a receiving user in the virtual domain.

17. (Original): A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system as recited in claim 16, the computer-readable medium further comprising computer program code devices configured to cause a computer to execute the operations of:

initially resolving a user name during a user name search operation at the higher hierarchical level and subsequently at the first hierarchical level such that in a multi-domain environment the search operation is performed as if the user name was part of a flat name space.

18. (Currently Amended): An electronic messaging system having a main host computer for transferring an incoming message between **users including** a sending subscriber and a receiving subscriber having an associated unique user name, comprising:

a messaging server coupled to the host computer arranged to receive the incoming message from the sending subscriber and arranged to forward the message to the receiving subscriber based upon the receiving subscriber's user name;

a hierarchically organized directory coupled to the messaging server arranged to define a virtual domain node corresponding to a real (non-virtual) domain, **the virtual domain node associated with one of the users, the virtual domain node** having associated with it a plurality of virtual domain attributes ~~to the virtual domain node,~~ wherein the hierarchically organized directory is a hierarchical structure that resembles a tree with one major branch at the top and many branches and sub-branches below, the plurality of virtual domain attributes ~~selected from including a designated virtual domain administrator, a designated virtual domain postmaster,~~ a state of the virtual domain[[,]] and ~~a set of allowed~~ **one or more messaging services for the virtual domain, the one or more messaging services defined in a particular manner for the user associated with the virtual domain node.**

19. (Cancelled)

20. (Previously presented): An electronic messaging system as recited in claim 18, wherein the state of the virtual domain node is selected from the list comprising: active, inactive (or suspended), and deleted.

21. (Original): An electronic messaging system as recited in claim 20, wherein the hierarchically organized directory is an LDAP based directory information tree (DIT) that includes a plurality of directory entries each of which is associated with a higher level (parent) directory entry and wherein the directory takes the form of a segmented name space.

22. (Original): An electronic messaging system as recited in claim 21, wherein the user name is segmented in such a way that the user is uniquely identified by a unique userid at a first hierarchical level and an associated domain name at a higher hierarchical level.

23. (Original): An electronic messaging system as recited in claim 22, wherein in order for the messaging server to forward the email message to the receiving subscriber, the messaging server executes a user name search operation.

24. (Original): An electronic messaging system as recited in claim 23, wherein the user name search operation comprises:

initially resolving the user name at a highest hierarchical level and subsequently at a lowest hierarchical level in such a way that when the name search operation is executed in a multi-domain environment, the search operation is performed as if the user name was part of a flat name space.

25. (Original): An electronic messaging system as recited in claim 24, wherein the messaging server further includes:

a routing table defined by the directory based upon the resolved receiving subscriber's user name that defines a path by which the email message is passed from the sending subscriber to the receiving subscriber; and

a transfer agent arranged to direct the email message from the sending subscriber to the receiving subscriber as defined by the routing table.

26. (Cancelled)

27. (New): A method for defining a virtual domain in an electronic messaging system supporting a plurality of users, the method comprising:

defining a plurality of virtual domain nodes in a hierarchically organized directory wherein the hierarchically organized directory is a hierarchical structure, each virtual domain node corresponding to a real domain name server;

associating each virtual domain node with a respective one of the plurality of users;

associating, for each of the virtual domain nodes, a plurality of virtual domain attributes to the node, the plurality of virtual domain attributes including a state of the virtual domain and one or more messaging services for the virtual domain;

defining, for each of the virtual domain nodes, the one or more messaging services in a particular manner for the user associated with that virtual domain node.

28. (New): A method as recited in claim 27, wherein the state of the virtual domain node is selected from the list comprising: active, inactive, and deleted.

29. (New): A method as recited in claim 27, further comprising:  
hosting the plurality of virtual domain nodes on a single server.
30. (New): A method as recited in claim 27, wherein the users are organizations.